

What is Claimed is:

1. A rolling bearing comprising races having a raceway, and rolling elements having a rolling contact surface, at least the raceway of the races having a machined surface in which a surface layer is formed by electrochemically or chemically dissolving the machined surface.
2. A rolling-bearing unit comprising a rotating shaft of a flywheel for attitude control of an artificial satellite and a rolling bearing provided for supporting the rotating shaft and having races formed with a raceway and rolling elements formed with a rolling contact surface, at least the raceway of the races having a machined surface in which a surface layer is formed by electrochemically or chemically dissolving the machined surface.